



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D5612-1
Job Sheet 168542



Part No: D5612-1

Job Qty: 1 ea

Part Name: Wrench Handle



Part Weight: 0 lbs

Job Created: 11/16/17

Due Date: 11/30/17

Type: R+D

Note: D5612 REV.A3 IPP REV:A 17.11.15 NEW ISSUE DD VERF:JFS

Ship Via:

PRELIMINARY ISSUE

Status: Scheduled

Priority: Medium

Job Tracking No:

Created By: Mario Poulin

Description:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		11/29/17	0.00	0.00	Start Up Waterjet		
100	Waterjet	1 pcs		11/29/17	0.00	0.10	Waterjet1		
110	QC	1 pcs		11/29/17	0.00	0.00	QC2 Waterjet-3		
120	QC	1 pcs		11/29/17	0.00	0.00	QC8		
130	Small Fab	1 pcs		11/30/17	0.01	0.25	Small Fab-1		
140	QC	1 pcs		11/30/17	0.00	0.00	QC5		
150	Packaging	1 pcs		11/30/17	0.00	0.00	Packaging3		
160	QC21-SA	1 Ea		11/30/17	0.00	0.00	QC21		

Part Op 100 - 1-Cut as per Dwg Dwg Rev: 43 Prog Rev: 43 2-Deburr if necessary
Descriptions: 130 - 1- Form as per dwg 2- Engrave with Marktronics as per dwg Note 6 sheet 2

JAN 29 2018

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M304S13GA	0	11	0	0

Part Specifications

Specifications could not be found.

Plex 11/16/17 10:45 AM dart.poulin.mario

RDF-1044-01
per ECN 17-793
DATE 18-01-26
AUTH
EFFECTIVE
POSITIVE RECALL

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



17. QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																																				
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Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval																																																																																				
Description Work Job No: 168542 Mtg Date: 11/30/17 Start up Operation D5612-1 Change No: Operation: Revision: PART NO: Wrench Handle S015932 DART AEROSPACE Root Cause <table style="width:100%; border: none;"> <tr><td>Environment ☐</td><td>No Re-verification ☐</td></tr> <tr><td>Design ☐</td><td>Operator ☐</td></tr> <tr><td>Doc/Data ☐</td><td>Offset/Setup ☐</td></tr> <tr><td>Equip/Tooling ☐</td><td>Supplier ☐</td></tr> <tr><td>Handling/Pre ☐</td><td>Training ☐</td></tr> <tr><td>Material ☐</td><td>Use for Testing ☐</td></tr> <tr><td>Internal Transport ☐</td><td>Poor Information ☐</td></tr> <tr><td>Tribal Knowledge ☐</td><td>Rushing ☐</td></tr> <tr><td>LOA ☐</td><td>Product Improvement ☐</td></tr> <tr><td>Substation ☐</td><td>Process Improvement ☐</td></tr> <tr><td>Past Expiry Date ☐</td><td>Manufacturing Process ☐</td></tr> <tr><td>Misidentified ☐</td><td>Past Due ☐</td></tr> </table> Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com <table style="width:100%; border: none;"> <tr><td>☐</td><td>Crushing</td><td>☐</td><td>Contamination</td><td>☐</td><td>Wrong Stock Pulled</td></tr> <tr><td>☐</td><td>Heat Treat</td><td>☐</td><td>Countersink</td><td>☐</td><td>Out of Sequence</td></tr> <tr><td>☐</td><td>Wave/Twist in Tube</td><td>☐</td><td>Cut Too Short</td><td>☐</td><td>Off-set</td></tr> <tr><td>☐</td><td>Marks/Chatter</td><td>☐</td><td>Instructions Incomplete/Unclear</td><td>☐</td><td>Mislabeled</td></tr> <tr><td></td><td></td><td>☐</td><td>Drill Holes</td><td>☐</td><td>Fit/Function</td></tr> <tr><td></td><td></td><td></td><td></td><td>☐</td><td>Misaligned/off center</td></tr> </table> <table style="width:100%; border: none;"> <tr> <td style="width:15%;">☐</td> <td style="width:15%;">Positioned Wrong</td> <td style="width:15%;">☐</td> <td style="width:15%;">Outside Dimensions</td> <td style="width:15%;">☐</td> <td style="width:15%;">Over/Under tolerance</td> </tr> <tr> <td>☐</td> <td>Part Incorrect</td> <td>☐</td> <td>Part Lost/Missing</td> <td>☐</td> <td>Part Moved</td> </tr> <tr> <td>☐</td> <td>Drawing</td> <td>☐</td> <td>Finish</td> <td>☐</td> <td>Misread</td> </tr> <tr> <td>☐</td> <td>Turning Sequence</td> <td>☐</td> <td></td> <td>☐</td> <td></td> </tr> </table>					Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	☐	Crushing	☐	Contamination	☐	Wrong Stock Pulled	☐	Heat Treat	☐	Countersink	☐	Out of Sequence	☐	Wave/Twist in Tube	☐	Cut Too Short	☐	Off-set	☐	Marks/Chatter	☐	Instructions Incomplete/Unclear	☐	Mislabeled			☐	Drill Holes	☐	Fit/Function					☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐		☐	
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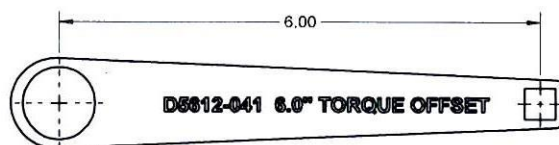
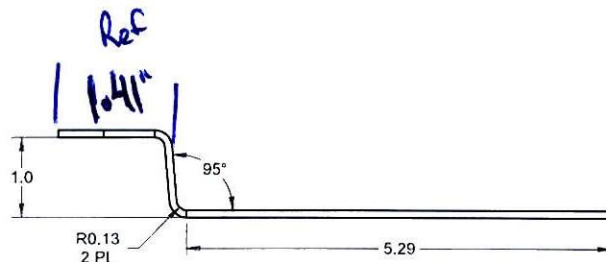
DART AEROSPACE LTD		Work Order: 168542
Description: Wrench Handle		Part Number: D5612-1
Inspection Dwg: D5612 Rev: A3		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

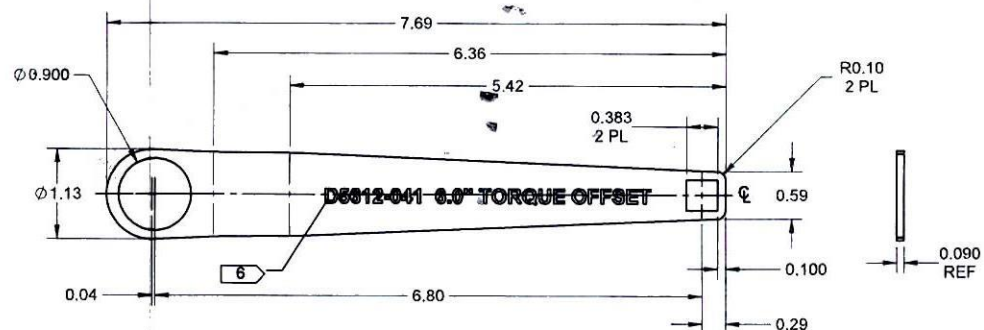
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
7.69	± 0.030	7.70	1		UDC-02	
6.36	± 0.030	6.37	1		Tape	
5.42	± 0.030	5.422	1			
0.59	± 0.030	0.601	1			
1.13	± 0.030	1.14	1			
0.900	$+0.005 - 0.001$	0.900	1			
6.80	± 0.030	6.815	1			
0.383	± 0.010	0.385	1			
0.59	± 0.030	0.601	1			
0.100	± 0.010	0.1005	1			
0.29	± 0.030	0.30	1			
0.090	± 0.010	0.091	1			
6.00	± 0.030	6.00	1			

Measured by: SC	Audited by: DAS 38	Preliminary Approval:
Date: 17/11/30	Date: NOV 01 0-89	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	



D5612-1 WRENCH HANDLE
(MAKE FROM D5612-1F)



D5612-1F FLAT PATTERN

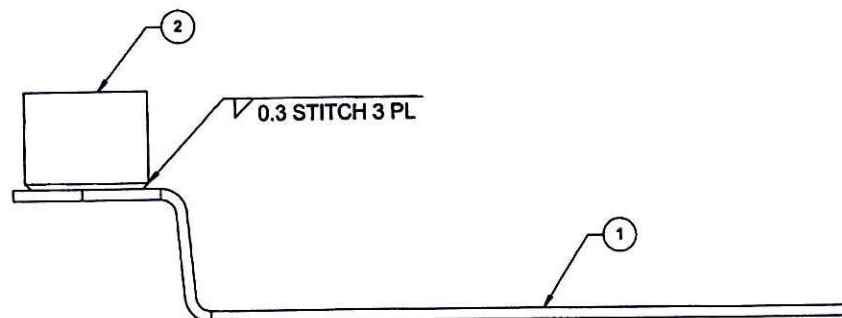
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS SHEET, 0.090 THK, ANNEALED
PER MIL-S-5059 AMS 5513 (304) OR AMS 5524 (316)
OR ASTM A240 OR ASME SA240
REF DART SPEC M304S13GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE D5612-041 6.0" TORQUE OFFSET AS SHOWN
- 7) WEIGHT: 0.15 lbs
- 8) ALL NON DIMENSIONED FEATURES CONTROLLED BY D5612-1.DXF REV. A

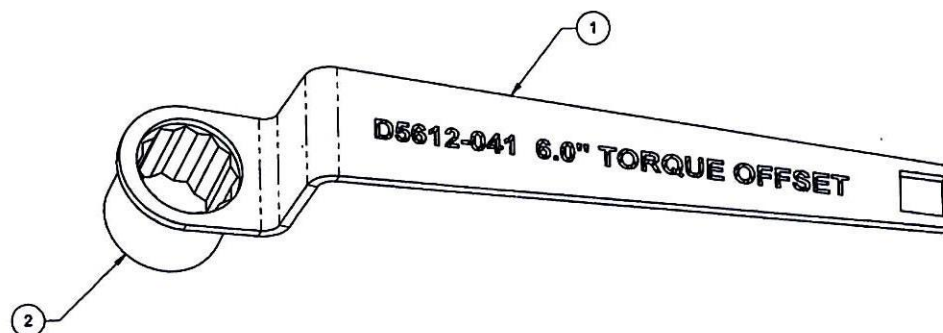
PRELIMINARY ISSUE

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. A3
MFG. APPR.	DD	D5612	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.	N/A	ADAPTER WRENCH	NTS
DATE	17.11.08	COPYRIGHT © 2017 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM	QTY	P/N	DESCRIPTION
	X	D5612-041	ADAPTER WRENCH
1	1	D5612-1	WRENCH HANDLE
2	1	D5612-3	SOCKET



D5612-041 AUXILIARY VIEW



D5612-041 ADAPTER WRENCH

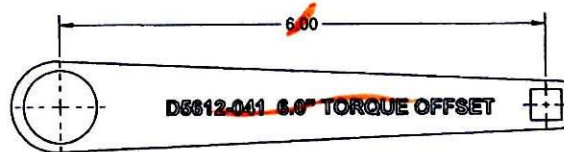
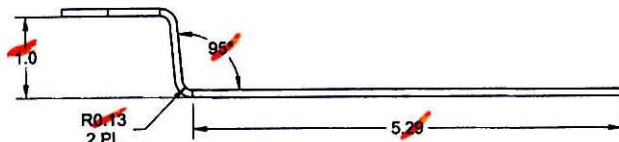
NOTES:

- 1) MATERIAL: NONE
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.20 lbs

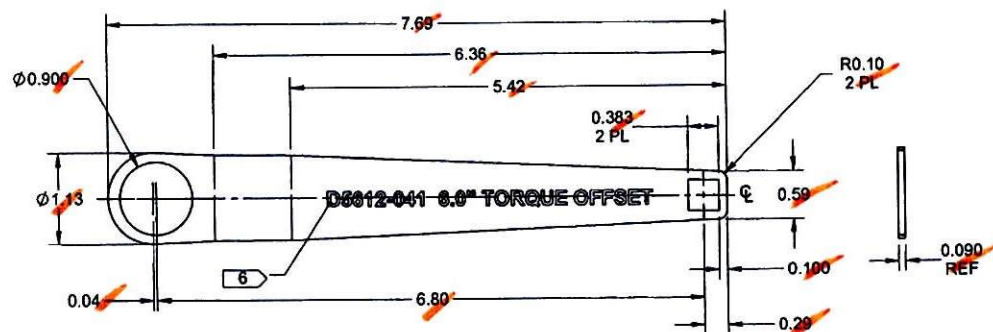
RELEASED
2018-01-08
EW A-793

APPROVED

A	NEW ISSUE	RF	17.11.08
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	DD	D5612	SHEET 1 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	N/A	ADAPTER WRENCH	NTS
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D5612-1 WRENCH HANDLE
(MAKE FROM D5612-1F)



D5612-1F FLAT PATTERN

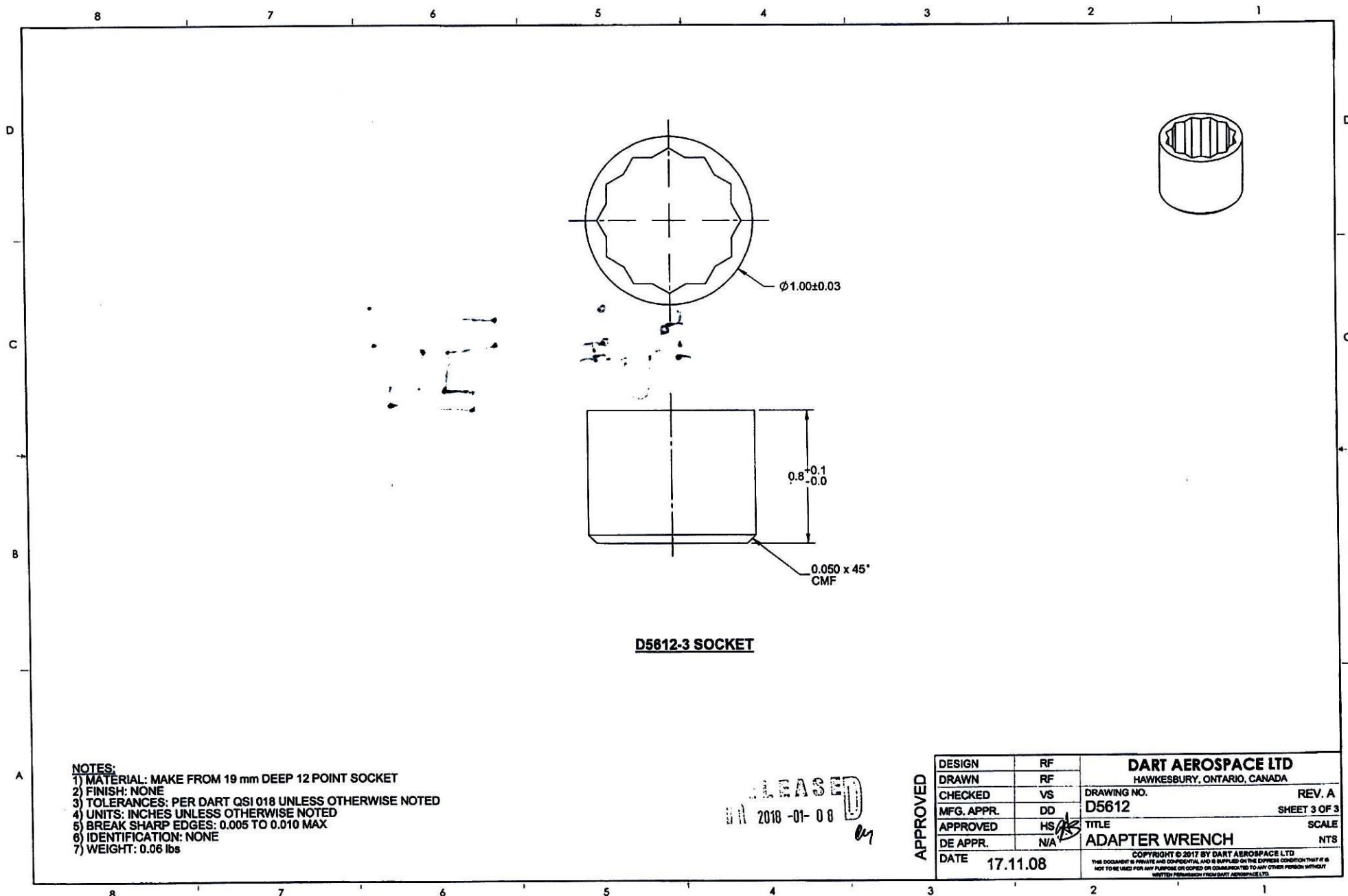
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS SHEET, 0.090 THK, ANNEALED
PER MIL-S-5050 AMS 5513 (304) OR AMS 5524 (316)
OR ASTM A240 OR ASME SA240
REF DART SPEC M304S13GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE D5612-041 6.0" TORQUE OFFSET AS SHOWN
- 7) WEIGHT: 0.15 lbs
- 8) ALL NON DIMENSIONED FEATURES CONTROLLED BY D5612-1.DXF REV. A

RELEASED
2018-01-08

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. A
CHECKED	VS	D5612	SHEET 2 OF 3
MFG. APPR.	DD	TITLE	SCALE
APPROVED	HS	ADAPTER WRENCH	NTS
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DATE	17.11.08		



D5612-3 SOCKET

NOTES:

- 1) MATERIAL: MAKE FROM 19 mm DEEP 12 POINT SOCKET
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.06 lbs

RELEASED
2018-01-08

APPROVED

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	DD	D5612	SHEET 3 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	N/A	ADAPTER WRENCH	NTS
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